MANAGEMENT OF HUMAN EXPOSURES TO SUSPECT RABID ANIMALS

A GUIDE FOR PHYSICIANS AND OTHER HEALTH CARE PROVIDERS

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DIVISION OF DISEASE PREVENTION AND CONTROL
OFFICE OF COMMUNICABLE DISEASE

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INTRODUCTION:

The raccoon adapted strain of the rabies virus is enzootic (endemic) among the wild animal population throughout the state. Animals with the greatest susceptibility to this strain are raccoons, with spill over into the skunk, fox and woodchuck populations **(target or vector species).** Unimmunized pets such as cats, dogs and ferrets **(suspicious species)** and strays can acquire rabies through exposure to wildlife. Cattle, sheep, pigs, horses and other mammals can also develop rabies. Animals such as rodents, rabbits, squirrels and opossums rarely acquire rabies and are considered **(low-risk species)**. ***Humans may be exposed to the rabies virus through a bite, scratch or direct contact, where there is contamination of a scratch, abrasion, mucous membrane, or fresh open wound with potentially infectious material such as saliva or central nervous system tissue from an animal.*** The majority of such exposures are from dog bites or cat bites/scratches. Often indirect exposures occur, such as when fresh saliva from a target species is carried passively in a wound or on the muzzle or fur of a pet animal. Exposure by inoculation of a mucous membrane (nose, eyes) or into an open skin lesion or wound of the human caretaker is, theoretically possible in such a situation. Of note, bats in RI are also endemic for the bat strain of rabies virus. ***Bat strains are highly transmissible to humans, and prophylaxis is often recommended for exposure by proximity even without a visible wound.***

RISK ASSESSMENT:

The clinical care of a person who may have been exposed to rabies requires first the assessment of whether a significant bite or non-bite exposure has occurred, and then an assessment of the likelihood that the animal involved was rabid. To this end, it is extremely important to capture the exposing animal for quarantine, or euthanasia and testing. A 10-day quarantine is the recommended option only in the case of a captive dog or cat or ferret, which appears healthy. This action is based on the biologic fact that cats, dogs and ferrets shed rabies virus in the saliva only for the 10-day period immediately prior to death. A dog, cat or ferret that is alive and well at the end of a 10-day period of observation counting from the date of exposure could not have transmitted rabies to the patient.

Target species (or pets with clinical rabies symptoms) should be euthanized and tested as soon as possible, with vaccination decisions based on results. Exposures by animals that escape capture, as well as all low-risk species, livestock and exotic animals should be assessed on a case-by-case basis with DOH consultation.

PRIMARY PREVENTION (to avoid exposure):

- Vaccinate pets
- Avoid contact with wildlife and strays

- Wear gloves to tend pets with wounds of unknown origin, or immediately after encounters have occurred between the pet and either stray animals or wildlife
- Contain garbage to prevent attracting animals and animal proof your homes.
- Vaccinate persons in high-risk occupations (vets etc). – Pre-exposure prophylaxis

SECONDARY PREVENTION (after exposure has occurred):

- Vigorously wash exposed site
- Capture, quarantine, and/or test exposing animal (after euthanasia)
- Administer post-exposure prophylaxis with rabies vaccine as recommended.

REPORTING REQUIREMENTS

Animal bites to humans are required to be reported to the Department of Health (DOH) by phone at (401) 222-2577 between 8:30 am and 4:30 pm or to (401) 272-5952 after hours or by fax to (401) 222-2477 within 24 hours of being brought to the notice of a physician or health care facility. Do not fax reports after hours except for low risk exposures occurring after hours or on weekends, which in your assessment need no attention until the next working day. Use the "Animal Bite Case Report" form as a guide to obtain the history and as the document that can be faxed to the Department. This is the basic intake form which DOH staff will use to open a case-management record. Once an animal bite or suspect exposure is reported, DOH staff will provide case-management services until final resolution of the case. These services include exposure evaluation, confirmation of animal capture and quarantine or confirmation of animal capture and euthanasia, coordination with the laboratory for follow up on animal testing results, notification to the patient of the status of the investigation, rabies risk communication to the patient and release/referral for vaccine and RIG as indicated.

Make a telephone report to the local police department of the city/town where the exposing animal is located. This will involve the animal control officer (ACO) expeditiously. ACO's will initiate animal capture, quarantine or euthanasia as indicated on a case-by-case basis in accordance with the rules and regulations of the State Rabies Control Board.

RABIES VACCINE AND IMMUNE-GLOBLIN AVAILABILITY

Use the decision tree "Management of Human Exposures to Suspect Rabid Animals" as a guide to determine the immediate need for post-exposure rabies vaccination. Other than direct or indirect exposures to target species urgent vaccination is rarely required. A window of 5 to 7 days is available to try to capture and quarantine stray animals before vaccination is embarked upon. Note that rabies vaccine is in short supply, extremely expensive and not without side effects, therefore, as a policy, DOH purchases and stocks vaccine at several area hospital pharmacies. **Vaccine is released on a case-by-case basis only upon pre-authorization by a DOH physician (401 222-2577) or after hours (401 272-5952).** DOH will cover the cost of vaccine for the uninsured. Vaccine can be administered at the provider of choice indicated by the patient. Standard CDC regimens for administration of vaccine should be followed (Table 1. and Table 2.).

RABIES CONTROL IS COLLABORATIVE:

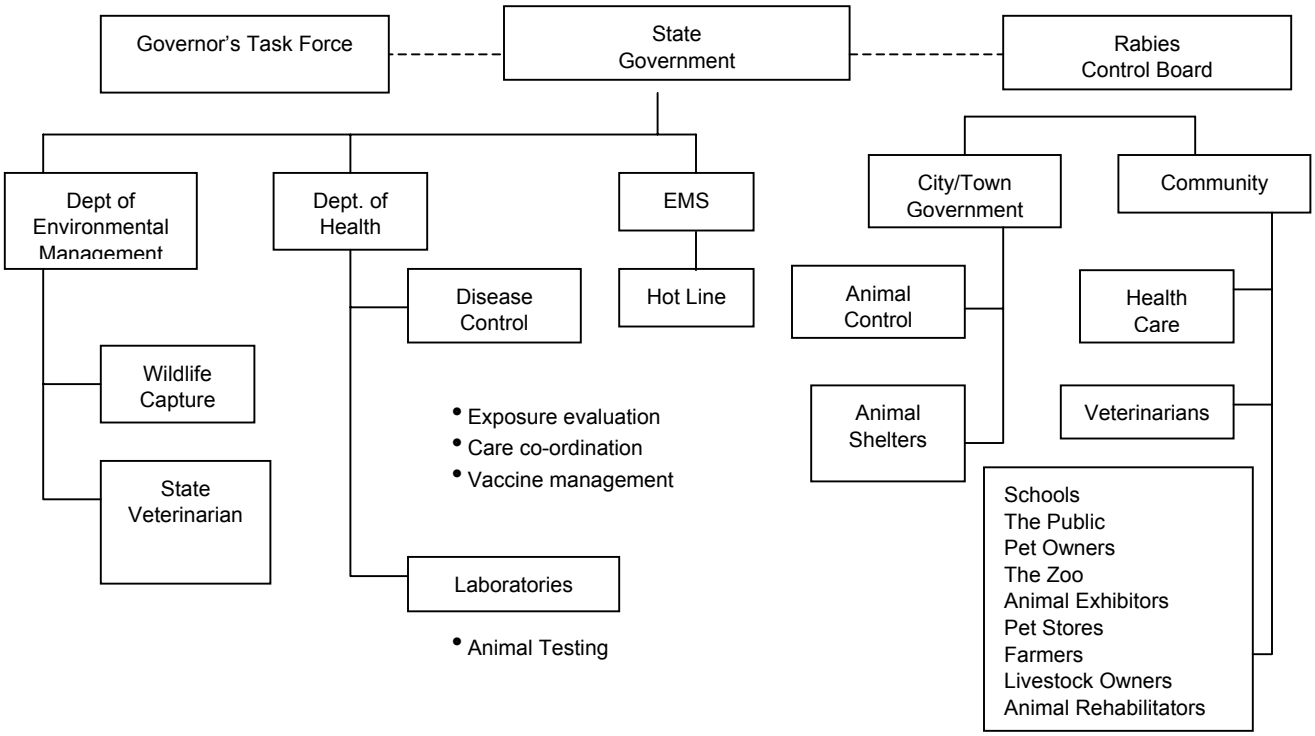

Table 1. Rabies post-exposure prophylaxis schedule, United States, 1999

Vaccination status	Treatment	Regimen*
Not previously Vaccinated	Local wound cleaning	All post-exposure treatment should begin with immediate thorough cleansing of all wounds with soap and water. If available, a virucidal agent such as a povidone-iodine solution should be used to irrigate the wounds.
	RIG	Administer 20 IU/kg body weight. If anatomically feasible, **The full dose** should be infiltrated around the wound(s) and any remaining volume should be administered IM at an anatomical site distant from vaccine administration. Also, RIG should not be administered in the same syringe as vaccine. Because RIG might partially suppress active production of antibody, no more than the recommended dose should be given.
	Vaccine	HDCV , RVA or PCEC** 1.0ml, IM (deltoid area†), one each on days 0, 3, 7, 14 and 28.
Previously vaccinated ¶	Local wound cleaning	All post-exposure treatment should begin with immediate thorough cleaning of all wounds with soap and water. If available, a virucidal agent such as a povidone-iodine solution should be used to irrigate the wounds
	RIG	RIG should **not** be administered.
	Vaccine	HDCV, RVA or PCEC 1.0mL, IM (deltoid area†), one each on days 0 § and 3.

* These regimens are applicable or all age groups, including children.

† The deltoid area is the only acceptable site of vaccination for adults and older children. For younger children, the outer aspect of the thigh may be used. Vaccine should never be administered in the gluteal area.

§ Day 0 is the day the first dose of vaccine is administered.

¶ Any person with a history of pre-exposure with HDCV or RVA; prior post-exposure prophylaxis with HDCV, RVA, or PCEC or previous vaccination with any other type of rabies vaccine and a documented history of antibody response to the prior vaccination.

Table 2. Rabies pre-exposure prophylaxis schedule, United States, 1999

Type of vaccination	Route	Regimen*
Primary	IM	HDCV, PCEC or RVA, 1.0 mL (deltoid area), one each on days 0, *7 and 21 or 28
	ID	HDCV, 0.1 mL, one each on days 0, *7 and 21 or 28
Booster	IM	HDCV, PCEC or RVA, 1.0 mL (deltoid area), day 0* only
	ID	HDCV, 0.1ml day 0 only

**HDCV=human diploid cell vaccine; PCEC-purfied chick embryo cell vaccine; RVA=rabies vaccine adsorbed.
* Day 0 is the day the first dose of vaccine is administered.